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EXAMINER

VU, THONG H

ART UNIT PAPER NUMBER

2142

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/709,830

Applicant(s)

DUNCAN ET AL.

Examiner

Thong H Vu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1. Claims 1-44 are pending.

Response to Arguments

2. Claims 1,18,35,43 and 44 have been amended. Applicant's arguments with respect to claims 1,18,35,43 and 44 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4,6-14,18-42,44 are rejected under 35 U.S.C. § 102(e) as being anticipated by Devarakonda et al [Devarakonda, 6,757,729 B1].

3. As per claim 1, Devarakonda discloses a method for performing a service on a network device [Devarakonda, network services, abstract], comprising the steps of:

installing the service on the network device from another location [Devarakonda, the VEM is download form a service provide to a PDA; col 2 lines 20-40; col 3 lines 10-38; and initialize (i.e.: install), col 4 lines 26-60], the service having a corresponding set of service relationships [Devarakonda a list of services with a reference to the stub, col 3 line 62-col 4 line 3];

checking the service relationships of the loaded service against a stored registry of relationships [Devarakonda, the VES checks the directory service, col 4 lines 60-67], wherein the service registry includes indications of services and indications of dependencies of services on other services [Devarakonda, the resgisterService using LookupService to see if the service has a stub, col 4 lines 60-67] and

wherein the checking the service relationships of the loaded service includes determining whether all other services the loaded service depends on are available [Devarakonda, the VES then adds a service entry to the registry, col 4 lines 60-67]; and causing the service to be executed on the network device only if the services the loaded service depends on are available [Devarakonda, if appropriate (i.e.: available) a reference to stub and the VES can access it, col 4 line 60-col 5 line 3].

4. Claims 18,35,44 contain the similar limitations set forth of claim 1. Therefore, claims 18,35,44 are rejected for the similar rationale set forth in claim 1.

5. As per claim 2, Devarakonda discloses the step of updating the stored registry of relationships with information corresponding to the executed service [Devarakonda, updated, col 5 lines 4-42].

6. As per claim 3, Devarakonda discloses causing the service to be executed includes the step of providing instructions corresponding to the service to a virtual

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machine that is ported to the network device [Devarakonda, virtual machine, col 3 lines 3-24].

7. As per claim 4, Devarakonda discloses of causing another service to be executed on the network device in accordance with a result of the step of checking the service relationships [Devarakonda, check the directory service, col 4 lines 60-67].

8. As per claim 6, Devarakonda discloses the network device comprises a packet switching fabric as inherent feature of Internet.

9. As per claim 8, Devarakonda discloses the step of communicating with a remote client to receive an identifier corresponding to the service to be performed as inherent feature of Internet.

10. As per claim 9, Devarakonda discloses another location corresponds to an application server that stores a plurality of services as inherent feature of Internet.

11. As per claim 10, Devarakonda discloses another location corresponds to an application server that stores a plurality of services, and wherein the identifier comprises a URL pointing to the application server as inherent feature of Internet.

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12. As per claim 11, Devarakonda discloses downloading a file corresponding to the service from the application server in accordance with the URL as inherent feature of Internet.

13. As per claim 12, Devarakonda discloses communicating with the application server using the HTTP protocol [Devarakonda, HTTP, col 2 lines 20-27].

14. As per claim 13, Devarakonda discloses providing a telnet interface that allows the remote client to provide the identifier in association with a predefined command requesting the service to be performed as inherent feature of Internet.

15. As per claim 14, Devarakonda discloses interfacing with embedded hardware and software to perform tasks associated with the service as inherent feature of Java applet.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5,15-17,43 are rejected under 35 U.S.C. § 103 as being unpatentable over Devarakonda et al [Devarakonda, 6,757,729 B1] in view of Bell et al [Bell 6,658,580 B1].

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16. As per claim 43, Devarakonda discloses a network device for locally performing a service, comprising:

a control plane including an embedded CPU and operating system, a service environment ported to the embedded CPU and operating system [Devarakonda, a JAVA terminal with Virtual Environment Manager, col 2 lines 7-61], the service environment having:

a network interface adapted to install the service on the network device from another location, the service having a corresponding set of service relationships [Devarakonda, the VEM is download form a service provide to a PDA; col 2 lines 20-40; col 3 lines 10-38; and initialize (i.e.: install), col 4 lines 26-60; a list of services with a reference to the stub, col 3 line 62-col 4 lin5 line 3]

a registry of service relationships, a service manager coupled to the network interface and the registry that is adapted to check the service relationships of the loaded service against the registry [Devarakonda, the VES checks the directory service, col 4 lines 60-67] and

a service launcher coupled to the service manager that is adapted to cause the service to be executed on the network device if the service relationships can be resolved [Devarakonda, updated, col 5 lines 4-42]

However Devarakonda does not detail

a forwarding plane including a packet switching fabric, the service environment being operable in the control plane without interruption of the forwarding plane.

A skilled artisan would have motivation to improve the download control process between the Service Providers and network devices wherein the system registry or node configuration is checked to determine the sufficient or compatibility and found Bell's teaching.

Bell discloses a network management system using the Java class files [Bell, col 7 lines 17-44], MIB interface [Bell, col 32 lines 11-30], a forwarding card including a switching fabric control card [Bell, col 71 line 60-col 72 line 5] switching without interrupting [Bell col 72 lines 55-62].

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the technique of a switch fabric control card and forward card to forwarding without interrupting as taught by Bell into the Devarakonda's apparatus in order to utilize Virtual machine with registry services. Doing so would provide a dynamic services included control and management to the network devices .

17. As per claim 5, Devarakonda-Bell disclose the network device is one of a router, a switch, and a hub as inherent feature of Internet.

18. As per claim 7, Devarakonda-Bell disclose the network device comprises a control plane and a forwarding plane including the packet switching fabric, the loading, checking and causing steps being performed in the control plane without interruption of the forwarding plane [Bell, col 71 line 60-col 72 line 5, 55-62].

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19. As per claims 15,16 Devarakonda-Sidey disclose the service comprises accessing a MIB on the network device [Bell, MIB interface, col 32 lines 11-30.
20. As per claim 17, Devarakonda-Sidey disclose the step of interfacing with embedded hardware and software to cause forwarding rules referred to by the packet switching fabric to be adjusted as inherent feature of Java applet.
21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- USP 6,363,421 B2Barker discloses a Java virtual machine suing MIB and registry services.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Thong Vu, whose telephone number is (571)-272-3904. The examiner can normally be reached on Monday-Thursday from 8:00AM- 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Jack Harvey*, can be reached at (571) 272-3896. The fax number for the organization where this application or proceeding is assigned is 703-872-9306

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval IPAIRI system. Status information for published applications may be obtained from either Private PMR or Public PMR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thong Vu
Patent Examiner
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